

Attorney's Docket: 200205141
Art Unit: 1793
Serial No.: 10/532,585
Response to Non-final Office Action Mailed 11/13/2008

Amendments to the Claims:

- 1) (Currently Amended) A method of carrying out at least one of a chemical or physical operation, comprising the steps of spraying two or more liquids or suspensions through two or more nozzles into a swirl chamber having an internal space and having a cross-sectional area, wherein the two or more nozzles are not coaxially aligned with one another, at a pressure of between 1 and 1000 bar, and with a volume flow of between 5 and 500 l/h, to provide a volume of a liquid phase in almost completely fill the internal space of the swirl chamber with a liquid phase and to induce turbulent mixing of the liquid phase, said volume limited to a degree such that turbulent flow in the liquid phase is maintained, with physical alteration, and, after physical alteration has taken place, discharging the liquid phase continuously from the swirl chamber through an outlet aperture without the use of a carrier gas stream.
- 2) (Original) The method as claimed in claim 1, wherein the pressure is from 2 to 500 bar.
- 3) (Previously Presented) The method as claimed in claim 1, wherein the axes of the two or more nozzles are set at an angle of between 0° and 90°, based on the cross-sectional area of the swirl chamber, in opposition to the outlet aperture.
- 4) (Previously Presented) The method as claimed in at claim 1, wherein the physical alteration is the reaction to form an azo colorant.
- 5) (Original) The method as claimed in claim 4, wherein the reaction comprises one or more of the steps of diazotization, coupling, laking, and complexing.
- 6) (Previously Presented) The method as claimed in claim 4, wherein the azo colorant is selected from the group consisting of C.I. Pigment Yellow 1, 3, 12, 13, 14, 16, 17, 65, 73, 74, 75, 81, 83, 97, 98, 106, 111, 113, 114, 120, 126, 127, 150, 151,

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154, 155, 174, 175, 176, 180, 181, 183, 191, 194, 198, 213; Pigment Orange 5, 13, 34, 36, 38, 60, 62, 72, 74; Pigment Red 2, 3, 4, 8, 9, 10, 12, 14, 22, 38, 48:1-4, 49:1, 52:1-2, 53:1-3, 57:1, 60, 60:1, 68, 112, 137, 144, 146, 147, 170, 171, 175, 176, 184, 185, 187, 188, 208, 210, 214, 242, 247, 253, 256, 262, 266; Pigment Violet 32; and Pigment Brown 25.

- 7) (Previously Presented) The method as claimed in at claim 1, wherein the physical alteration is at least one of dispersing and fine division of a pigment in a liquid medium.
- 8) (Previously Presented) The method as claimed in claim 7, wherein the swirl chamber includes a precipitation medium and the fine division occurs by injecting a pigment solution into the swirl chamber.
- 9) (Previously Presented) The method as claimed in claim 7, wherein the pigment is dispersed in the swirl chamber in a flocculation-stable, liquid medium, to give a liquid pigment preparation.
- 10) (Previously Presented) The method as claimed in claim 7, wherein the pigment is an organic pigment selected from the group consisting of perylene, perinone, quinacridone, quinacridonequinone, anthraquinone, anthanthrone, benzimidazolone, disazo condensation, azo, indanthrone, phthalocyanine, triarylcarbonium, dioxazine, aminoanthraquinone, diketopyrrolopyrrole, indigo, thioindigo, thiazineindigo, isoindoline, isoindolinone, pyranthrone, isoviolanthrone, flavanthrone, anthrapyrimidine and carbon black pigments, and also mixed crystals or mixtures thereof.
- 11) (Previously Presented) An electrophotographic toner or an inkjet ink comprising a pigment made in accordance with the method of claim 9.

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12) (Previously Presented) A device for carrying out the method as claimed in claim 1, comprising two or more each of the two or more nozzles having a dedicated pump and feed line for introducing a liquid medium into a swirl chamber having an internal space and being surrounded by a casing; wherein the nozzles are not aligned coaxially with one another; wherein the swirl chamber includes an outlet aperture for leading off the resulting products from the swirl chamber and, optionally, a temperature sensing device swirl chamber for sensing the temperature of the swirl chamber.

13) (Previously Presented) The device as claimed in claim 12, wherein the axes of the two or more nozzles are set at an angle of between 0° and 90°, based on the cross-sectional area of the swirl chamber, in opposition to the outlet aperture.

14) (Previously Presented) The device as claimed in claim 12, wherein the swirl chamber has a volume of from 0.1 to 100 ml.

15) (Previously Presented) The device as claimed in claim 12, wherein the swirl chamber has a volume of from 1 to 10 ml.

16) (Previously Presented) An apparatus for carrying out at least one of a chemical or physical operation comprising:

a swirl chamber having an internal space, an outlet aperture and at least two inlet apertures;

two or more nozzles, each nozzle of the two or more nozzles having a feed line in registration with an inlet aperture of the at least two inlet apertures;

a casing surrounding the swirl chamber at least a portion of each nozzle of the two or more nozzles; and

wherein the two or more nozzles are not coaxially aligned.

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17. (Previously Presented) The apparatus as claimed in claim 16, further comprising a temperature sensing device for sensing the temperature of the swirl chamber.
18. (Previously Presented) The apparatus as claimed in claim 16, further comprising two or more pumps, each pump of the two or more pumps in fluid communication with a feed line of a nozzle of the two or more nozzles.
19. (Previously Presented) An azo colorant made in accordance with the method of claim 4.
20. (Previously Presented) A pigment in a liquid medium made in accordance with the method of claim 1.